jaga
CLIMATE DESIGNERS

VERTILINA HYBRID

Natural warmth. Vertical cool.

VERTILINA HYBRID

NATURAL WARMTH. VERTICAL COOL.

A modern interior revolves around harmony. Space, light, and materials come into their own when technology does not dominate, but supports. This calls for elegant and silent cooling and heating that seamlessly matches the aesthetics of every home.

VERTILINA HYBRID IS EXACTLY THAT:
A slim, vertical designer radiator that both cools and heats, blending discreetly into the space and making comfort tangible.

DESIGN BRINGS SERENITY
The elegant design brings serenity to walls with minimal surface area.

COMFORT WITHOUT COMPROMISE
Heat in winter. Cooling in summer. All whisper-quiet.

Vertilina Hybrid uses non-condensing cooling: a water-based method that prevents dry air or condensation for a more natural feel than traditional cooling systems. Its barely perceptible, gentle, even airflow significantly affects the perceived temperature.

A SLEEK AND POWERFUL SOLUTION
Cleverly designed technology enables high performance from a hybrid convector just 41 cm wide.

Vertilina Hybrid heats energy-efficiently and comfortably at low water temperatures, with its high reaction speed guaranteeing rapid comfort at any moment.

MADE FOR TODAY AND TOMORROW
The foundation of the Vertilina Hybrid is the proven Low-H_2O heat exchanger, backed by a 30-year guarantee and delivering on the promise of an energy-efficient indoor climate with ease. Our Hybrid technology, in turn, enables seamless heating and cooling in a single system.

Thanks to its slim design, quiet operation, and ability to both heat and cool with the same unit, Vertilina Hybrid is a future-proof choice that meets increasingly stringent building standards and energy requirements.

VERTILINA HYBRID

Vertilina Hybrid
H190 x L41 x T11

Traffic white (133)

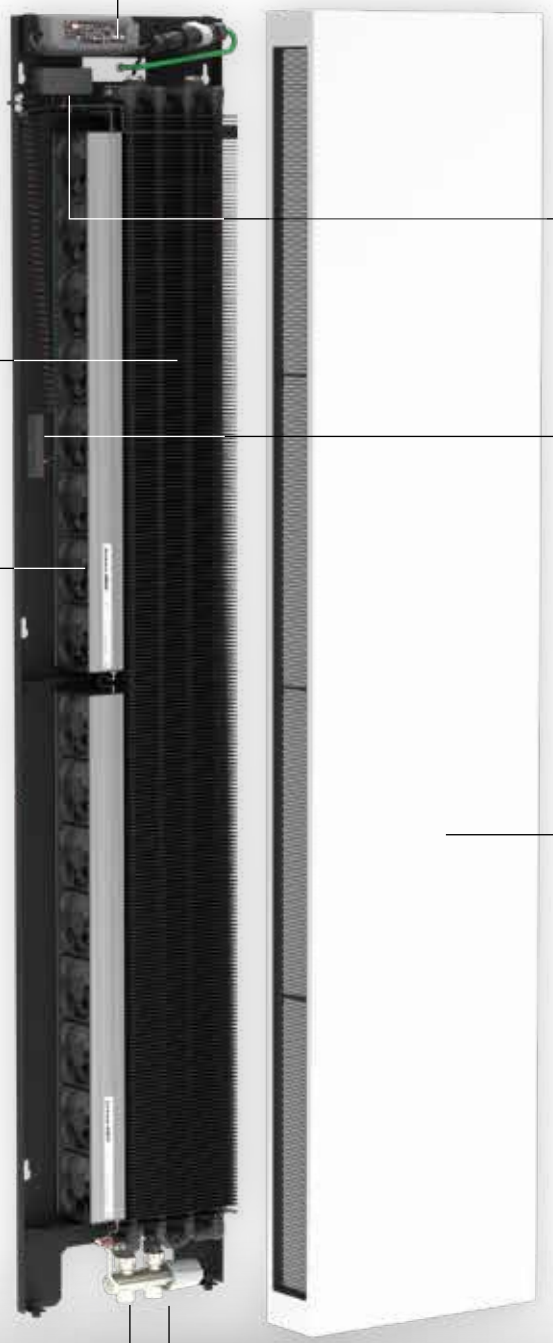
16/18/27 °C max. **773 Watts**
35/30/20 °C max. **1232 Watts**

NON-CONDENSING COOLING AND HEATING IN A SPACE-SAVING VERTICAL DESIGN

EFFICIENT USE OF WALL SPACE

With its slim 41 cm casing and only 15 cm of required clearance on both sides, the Vertilina Hybrid is perfect for spaces with limited available wall space..

With 11 height options, Jaga guarantees more than sufficient output for any space.



FULL-AUTOMATIC CONTROL SYSTEM
Fan speed can be controlled by temperature sensors (room and water) or via the control panel.

INTEGRATED POWER SUPPLY
Connect to 230 VAC to 24 VDC (11 & 16) power cable with supplied cable gland(s).

LOW-H2O HEAT EXCHANGER
The Low-H2O heat exchanger is the hyper-reactive, aluminium and copper motor of the ecological Jaga products.

TOUCH CONTROL OPTIONAL
For temperature setting, switching between heating/cooling, and boost function for maximum output.

Provided on the left as standard.

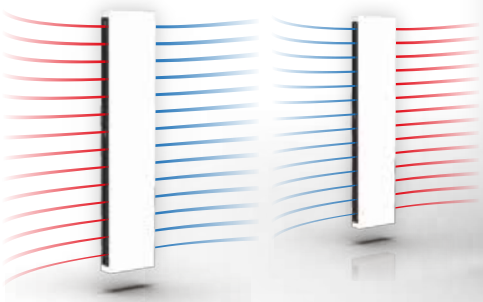
DYNAMIC BOOST HYBRID (DBH)

The DBH rail is a booster specifically designed for Jaga Low-H2O convectors to increase the output and to cool with a very low energy consumption.

The placement of the rail determines the intake and air projection of the Vertilina Hybrid. The default air projection is to the right.

THREE STANDARD COLOURS
In addition to Traffic White (133) and Sandblasted Grey (001), we also offer Off-Black (145) as a standard colour.

Sleek and stylish in all its simplicity!



THERMOELECTRIC MOTOR 24 VDC
Can be mounted invisibly inside the casing.

FAST AND EASY INSTALLATION WITH CENTRAL CONNECTION
Universal central connection and wall clearance, regardless of the height or type (thickness) of the unit.

EXTENTION PIPES
Extension pipes for connection underneath the cladding are supplied as standard.

MULTIFUNCTIONAL INTELLIGENCE

ACCELERATED HEATING AND COOLING

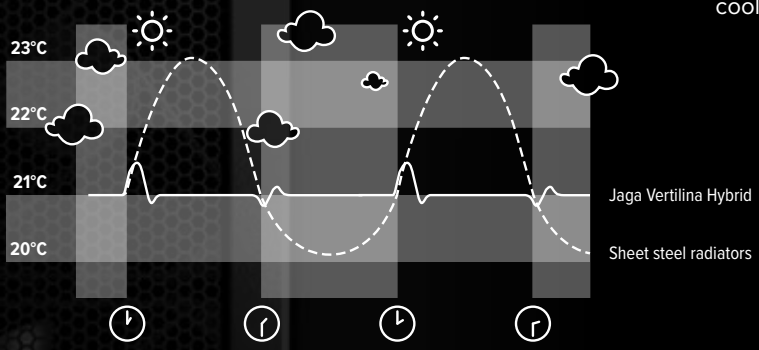
A home is a dynamic environment subject to external factors. Is the oven or dishwasher running? Is the sun shining in? Is it freezing outside? The highly responsive Jaga units register both room and water temperatures. This enables Jaga units to switch quickly and fully automatically, adjusting the temperature precisely to all conditions. The response time is more crucial than ever for your energy consumption and comfort!

LOW-H2O TECHNOLOGY

A small mass heats up faster than a large one – that's a law of nature. The aluminium and copper heat exchanger with low water content therefore delivers immediate heat to the room. This makes the Jaga Low-H2O units 9 to 16% more energy-efficient than panel radiators, and at least 5% more efficient than underfloor heating. Tested and confirmed by several independent bodies!

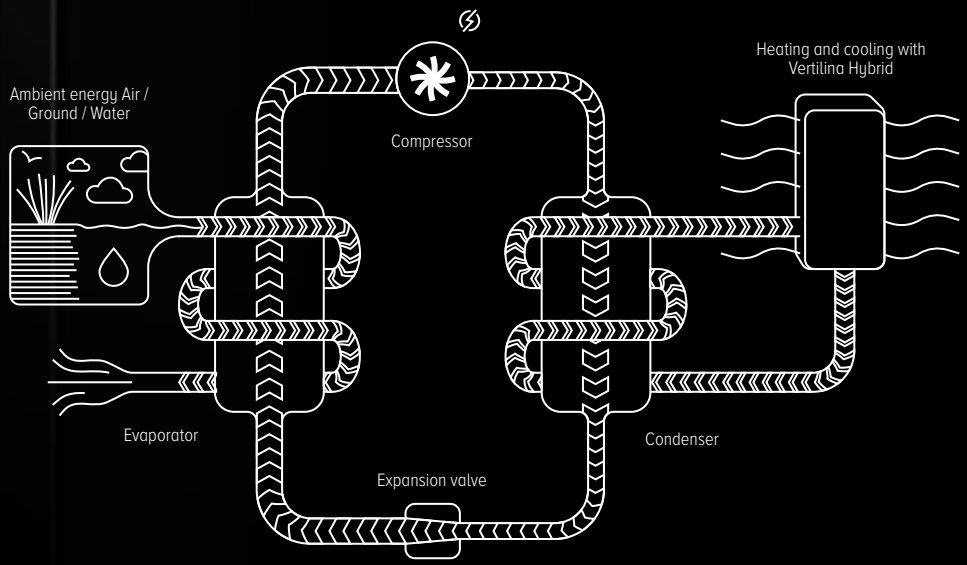
DYNAMIC BOOST HYBRID (DBH)

If I lower the supply temperature, the output of my radiator decreases. As a result, extra-large radiators are needed... But is that true? Thanks to the perfect combination of the DBH system and the powerful Low-H2O heat exchanger, the size of Jaga Hybrid units no longer affects the heating capacity. Even the smallest radiator performs optimally, allowing to renovate with all radiators of the same size. The Jaga DBH system significantly increases both capacity and response speed, for both heating and cooling. This ensures a perfectly controlled indoor climate in every room!



HEATING & COOLING WITH JAGA HEAT PUMP RADIATORS

As heat pump technology becomes the new standard for environmentally friendly heating and cooling, the distribution systems must evolve as well. Jaga Hybrid units provide comfortable heating and cooling at low water temperatures.



- ULTRA-SLIM UNIT, ONLY 41 CM WIDE—IDEAL FOR SPACES WITH LIMITED WALL SURFACE.
- AVAILABLE IN 11 DIFFERENT HEIGHTS, VARYING BETWEEN 90 AND 290 CM
- CENTRAL MM CONNECTION, UNDERNEATH OR INTEGRATED IN THE CASING
- FULLY AUTOMATIC OPERATION VIA WATER TEMPERATURE DETECTION
- INTEGRATED POWER SUPPLY

Type : 11 - 16
Height : 90 - 290 cm
Length : 41 cm

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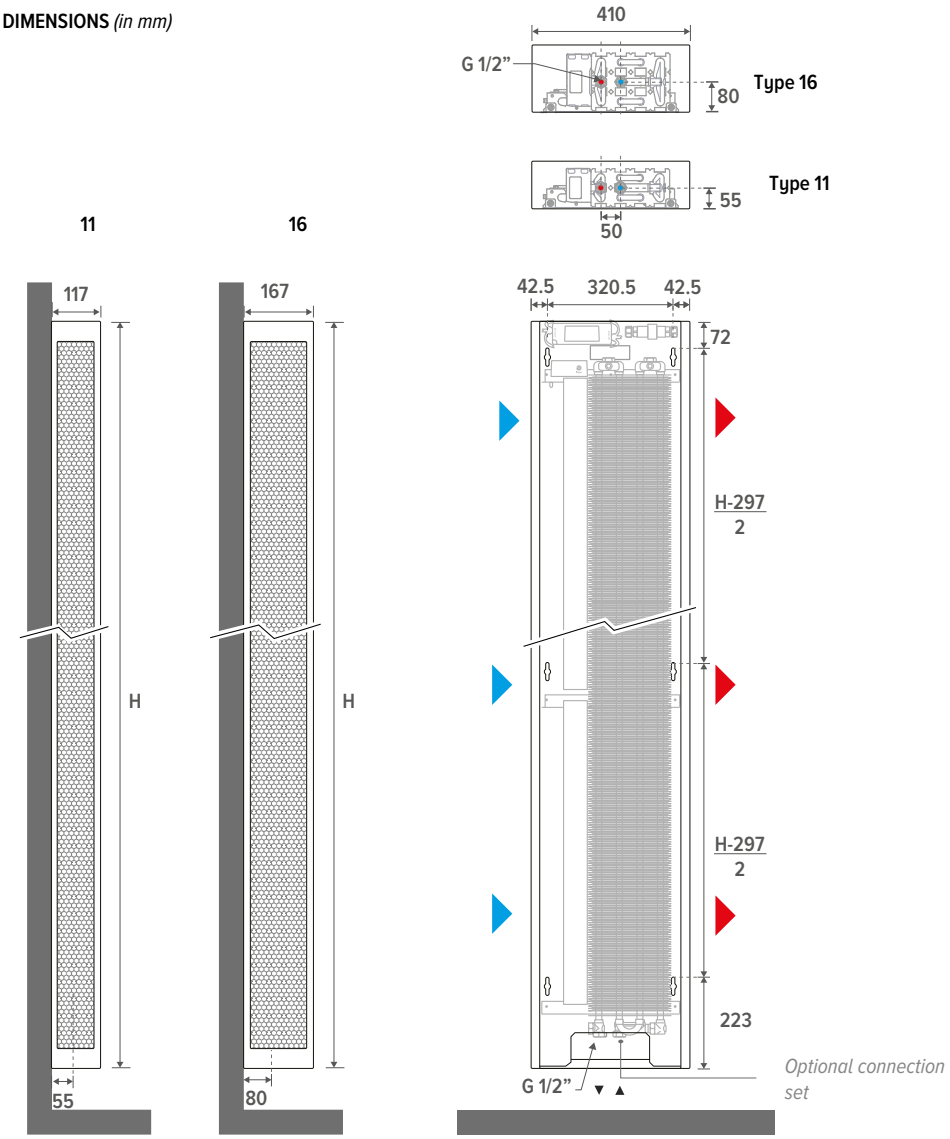
VERTILINA HYBRID

DIMENSIONS *(in mm)*



STANDARD DELIVERY

Fully pre-assembled vertical radiator with:

- Casing made of electro-galvanised 1.25 mm thick steel sheet. With hexagonal perforations (jet black 104) on the longitudinal sides for air supply and exhaust. Easy to hook in on the rear panel.
- Rear panel with fixing points made of sendzimir-galvanised sheet steel, jet black 104
- Low-H2O heat exchanger with 1/2" air vent and 1/2" drain cock.
- 230 VAC connection with watertight connection gland (IP68).
- Fan rail, integrated power supply and control system of choice.
- Connections can be completely concealed within the casing..
  Extension pipes for connection underneath the cladding are supplied as standard.

⚠ This heater is not equipped with a condensation monitor. It has to be integrated into the installation (only for cooling).

AIR PROJECTION

Standard
air projection standard to the right

Optional
Air projection left. Replace code R with L.

COLOURS

Eco-friendly, scratch-resistant powder coating with high UV-resistance.

Standard colours

- Traffic white RAL 9016 (133), soft touch lightly structured satin finish
- Sandblast grey (001), fine texture metallic lak
- off-black (145), soft touch lightly-textured satin lacquer

Other colours
See Jaga colour chart.
Extra cost different colour

ORDER CODE

VLAW 100041 11 XXX 104 R DDD

- DDD — *Control: - D01: Jaga TPT - D03: Jaga BMS - D09: Jaga ACO*
- R — *Air projection: R: right (standard) L: left*
- XXX — *Colour*
- 11 — *Type: 11. 16*
- 100041 — *Height*

INSTALLATION

For optimal operation of the radiator and accessibility for maintenance work, it is advisable to maintain a clearance of at least 15 cm.

CONTROL PANEL

JDPC (Jaga Dynamic Product Controller)

TYPE	POSITION	CONTROL PANEL	EXTERNAL 0-10 V CONTROL	WATER TEMPERATURE SENSOR	AIR TEMPERATURE SENSOR
Jaga ACO (D09)		✓	-	✓	✓
Jaga BMS 0-10V control (D03)		-	✓	✓	-
Jaga TPT (D01)		✓	-	✓	✓

JAGA ACO (D09)

- The fan speed is selected manually in 3 modes via the control panel.
- When the water temperature is lower than 24°C and the air is warmer than the water in the heat exchanger, the fans will start. The unit will then cool the area.
- When the water temperature is higher than 28°C and the air is colder than the water, the fans will start. The unit will then heat the area.
- The unit will **automatically** switch from heating to cooling and to standby mode.

JAGA BMS 0-10V CONTROL (D03)

- The fan speed is only **controlled by a 0-10V (DC) signal** via an external control system that is installed into the electronics of the unit. The 0-10V signal can come from a Jaga thermostat or another home automation or building management system.
- When the control voltage is 1V or higher and the water temperature is higher than 28°C or lower than 24°C, the fans will start rotating. The rotational speed will increase proportionally with the configured control voltage. At 10V control voltage, the fans will rotate at maximum rotational speed.
- When a Hybrid unit with Jaga BMS control is equipped with a **thermoelectric valve motor** connected to the internal electronics, the valve will open when the control voltage exceeds 1V.

JAGA TPT (D01)

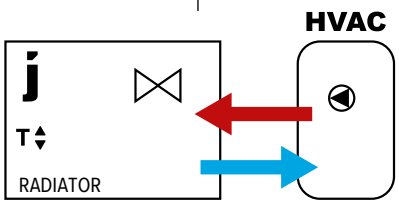
- The fan speed is automatically controlled in function of the preset comfort temperature via the fingertip controls. This allows the unit to be very silent once the comfort temperature is reached.
- When a Hybrid unit with Jaga TPT control is equipped with a thermoelectric valve motor connected to the internal electronics, the unit will take over the function of room thermostat. Based on the room temperature measurement, the unit will then switch on or off the water flow through the unit itself.
- If you wish to **set the room temperature via another system** that enables or disables the water flow through the unit, you do not need to connect a thermoelectric valve motor to the internal controller. The TPT controller will then only control the fan rotational speed based on the set comfort temperature. Intuitively, you will then use the fingertip control to get more or less fan support when the comfort temperature is reached.
- When the water temperature in the heat exchanger is lower than 24°C, the fans will start. The unit will cool the area.
- When the water temperature is higher than 28°C, the fans will start. The unit will heat the area.

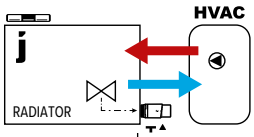
VERTILINA HYBRID

WHICH JAGA CONTROL SYSTEM TO CHOOSE

Would you like the unit to have room temperature control?

Yes, unit with integrated room temperature control
Fans will start automatically when the internal control sends warm/cold water through the radiator.



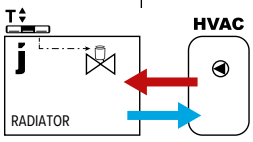


Heating: temperature control via thermostatic radiator valve (TRV)
Cooling: thermostatic radiator valve/adaptor (5090 1114) is on cooling mode, no temperature control

Fan speed is determined by 3-position control

JAGA ACO

Coding: D09



Temperature control via control panel on unit (thermoelectric valve in the radiator connected to unit electronics)

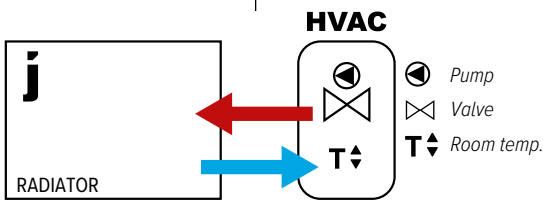
Fan speed adapts to the room temperature and the set target room temperature (via fingertip control)

JAGA TPT

D01

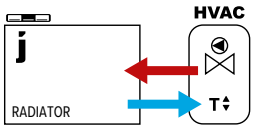
No, unit without integrated room temperature control
Fans will start automatically when the external control sends warm/cold water through the radiator.

For example: room thermostat, area control, room temperature regulation via home automation, etc.



Without 0-10V signal:
- room thermostat (None Jaga)
- area control with room temperature control
- boiler or heat pump control with room temperature control
- home automation with room temperature control
- other external room temperature controls

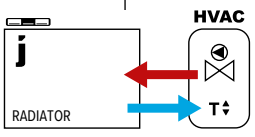
0-10V signal for fan control available from:
- (Jaga) room thermostat with 0-10V signal to unit
- home automation with 0-10V signal to unit



Choose 1 of 3 fan speeds (speed will not adjust, depending on room temperature)

JAGA ACO

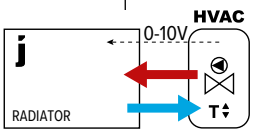
D09



Fan speed will adjust to the room temperature. Set the temperature range via the control panel.

JAGA TPT

D01



Fan speed is controlled by 0-10V connection to the electronics in the radiator

JAGA BMS

D03

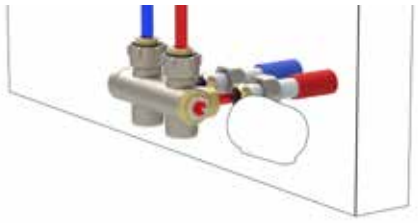
		Room temperature control on the unit		Unit without integrated room temperature control		
	SET	JAGA ACO	JAGA TPT	JAGA ACO	JAGA TPT	JAGA BMS
WITHIN THE CASING	143 41 42	Not applicable	24 	MA 	MA 	MA 
VIA BOTTOM OF CASING	143 41 42	AW  JH  AB  HC  AC 	Not applicable	MA 	MA 	MA 

Thermostatic radiator valve for heating, or for heating + cooling

	AW	AB	AC	JH	MA	24					
+	HC	MA	24	OF	AW	AB	AC	combined with	Jaga adapter M30 x 1.5		

CONNECTION OPTIONS ON THE INSIDE OF THE CASING

MULTI-H VALVE (to the wall or to the floor)



set 143 — **pressure-independent flow control (0.01 - 0.34)**

Heating		
COLO MHG 24 4...	24	
Heating and cooling		
COLO MHG 24 5...	24	
Manual		
COLO MHG MA 4...	MA	

fill in sleeve coupling code

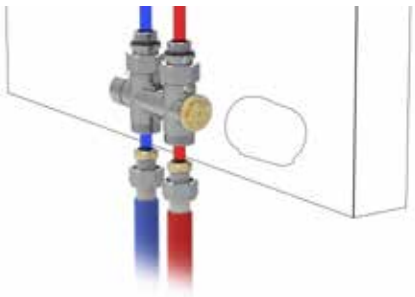
To the wall

set 41 — **2-pipe: KVS 1.65 one pipe: KVS: 2.20**

Heating		
CODE PW3 24 1...	24	
Heating and cooling		
CODE PW3 24 1...	24	
Manual		
CODE PW3 MA 1...	MA	

fill in sleeve coupling code

To the floor



set 42 — **2-pipe: KVS 1.65 one pipe: KVS: 2.20**

Heating		
CODE PF3 24 1...	24	
Heating and cooling		
CODE PF3 24 1...	24	
Manual		
CODE PF3 MA 1...	MA	

fill in sleeve coupling code

CONNECTION OPTIONS AT THE BOTTOM OF THE CASING

MULTI-H VALVE (to the wall or to the floor)

set 143 — **pressure-independent flow control (0.01 - 0.34)**

Heating *		
COLO MHG AW 4...	AW	
COLO MHG AB 4...	AB	
COLO MHG AC 4...	AC	
COLO MHG JH 4...	JH	
Heating and cooling		
COLO MHG AW 5...	AW	+
COLO MHG AB 5...	AB	+
COLO MHG HC 5...	HC	
Manual		
COLO MHG MA 4...	MA	

fill in sleeve coupling code

To the wall

set 41 — **2-pipe: KVS 1.65 one pipe: KVS: 2.20**

Heating *		
CODE PW3 AW 1...	AW	
CODE PW3 AB 1...	AB	
CODE PW3 AC 1...	AC	
Heating and cooling		
CODE PW3 HC 1...	HC	
Manual		
CODE PW3 MA 1...	MA	

fill in sleeve coupling code

To the floor

set 42 — **2-pipe: KVS 1.65 one pipe: KVS: 2.20**

Heating *		
CODE PF3 AW 1...	AW	
CODE PF3 AB 1...	AB	
CODE PF3 AC 1...	AC	
Heating and cooling		
CODE PF3 HC 1...	HC	
Manual		
CODE PF3 MA 1...	MA	

fill in sleeve coupling code

Sleeve couplings 3/4" Eurocone

PRECISION METAL TUBE		SYNTHETIC OR RPE/ALU	
CODE	*Tube Ø*	CODE	*Tube Ø*
112	12/1	612	12/2
114	14/1	614	14/2
115	15/1	616	16/2
116	16/1	618	18/2
118	18/1	619	16/1.5
		620	20/2

Sleeve coupling codes M24

PRECISION METAL TUBE		SYNTHETIC	
CODE	*Tube Ø*	CODE	*Tube Ø*
112	12/1	212	12/2
114	14/1	219	16/1.5
115	15/1	216	16/2
116	16/1	217	17/2
118	18/1	218	18/2

RPE/ALU	
CODE	*Tube Ø*
314	14/2
316	16/2
326	16/2.2
318	18/2

STEEL TUBE FOR C.H.	
CODE	*Tube Ø*
501	M24 x 1/2"
503	M24 x 3/8"

VERTILINA HYBRID

	HEIGHT	LENGTH	TYPE	POSITION	COOLING (non-condensing) Room temperature 27°C	HEATING Room temperature 20°C			SOUND PRESSURE LEVEL	POWER CONSUMPTION	WEIGHT	WATER CONTENT	ORDER CODE
	H	L	T		16/18	35/30	45/40	50/45	55/45				
	cm	cm			Watts	Watts	Watts	Watts	Watts	dB(A)	Watts	kg	L	
VLAW	090	041	11	1	253	396	720	882	955	26.0	9.9		1.2	VLAW 090 041 11 XXX 104 R DDD
				2	273	438	796	975	1056	30.0	11.5			
				3	293	491	891	1091	1182	34.8	12.3			
			16	1	329	551	1000	1224	1327	26.0	9.0		1.8	VLAW 090 041 16 XXX 104 R DDD
				2	354	584	1061	1299	1408	30.0	9.8			
				3	372	604	1097	1343	1456	32.4	12.0			
	100	041	11	1	292	456	828	1013	1098	26.0	11.1		1.3	VLAW 100 041 11 XXX 104 R DDD
				2	315	502	913	1117	1211	30.0	12.7			
				3	342	572	1040	1273	1380	35.5	14.4			
			16	1	376	630	1144	1401	1518	26.0	10.6		2.0	VLAW 100 041 16 XXX 104 R DDD
				2	405	671	1220	1493	1618	30.0	11.5			
				3	434	705	1280	1567	1698	33.5	15.0			
	120	041	11	1	367	571	1038	1271	1377	26.0	13.4		1.6	VLAW 120 041 11 XXX 104 R DDD
				2	397	629	1142	1398	1515	30.0	15.2			
				3	440	736	1337	1637	1774	36.6	18.5			
			16	1	474	795	1444	1767	1915	26.0	12.0		2.4	VLAW 120 041 16 XXX 104 R DDD
				2	512	853	1549	1896	2055	30.0	13.2			
				3	558	906	1646	2015	2184	34.4	18.0			
	150	041	11	1	477	739	1343	1644	1781	26.0	16.6		2.0	VLAW 150 041 11 XXX 104 R DDD
				2	517	814	1479	1810	1962	30.0	18.7			
				3	587	981	1783	2182	2365	37.8	24.7			
			16	1	613	1026	1864	2281	2472	26.0	14.6		3.0	VLAW 150 041 16 XXX 104 R DDD
				2	665	1111	2019	2471	2678	30.0	16.2			
				3	744	1208	2195	2686	2911	35.9	24.0			
	170	041	11	1	548	847	1539	1883	2041	26.0	18.5		2.3	VLAW 170 041 11 XXX 104 R DDD
				2	596	936	1700	2081	2255	30.0	21.0			
				3	685	1145	2080	2546	2759	38.5	28.8			
			16	1	698	1166	2119	2593	2810	26.0	16.9		3.4	VLAW 170 041 16 XXX 104 R DDD
				2	758	1270	2307	2824	3060	30.0	18.9			
				3	868	1409	2561	3134	3397	37.0	30.0			
	190	041	11	1	617	952	1730	2117	2294	26.0	20.3		2.5	VLAW 190 041 11 XXX 104 R DDD
				2	675	1056	1918	2348	2544	30.0	23.2			
				3	782	1308	2377	2910	3153	39.1	32.9			
			16	1	798	1333	2422	2964	3212	26.0	16.9		3.8	VLAW 190 041 16 XXX 104 R DDD
				2	866	1451	2637	3227	3497	30.0	18.9			
				3	993	1611	2927	3582	3882	37.0	30.0			

enter colour code

enter code air projection

enter control system code

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VERTILINA HYBRID

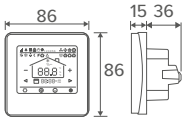
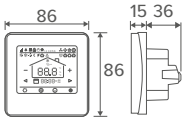
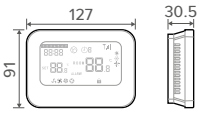
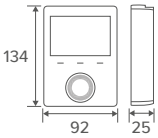
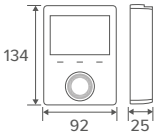
	HEIGHT	LENGTH	TYPE	POSITION	COOLING (non-condensing) Room temperature 27°C	HEATING Room temperature 20°C				SOUND PRESSURE LEVEL	POWER CONSUMPTION	WEIGHT	WATER CONTENT	ORDER CODE
	H	L	T		16/18	35/30	45/40	50/45	55/45					
	cm	cm			Watts	Watts	Watts	Watts	Watts	dB(A)	Watts	kg	L	
VLAW	210	041	11	1	685	1056	1918	2348	2544	26.0	21.9		2.8	VLAW 210 041 11 XXX 104 R DDD
				2	751	1172	2130	2607	2825	30.0	25.3			
				3	880	1472	2674	3273	3547	39.6	37.0			
			16	1	882	1469	2670	3267	3541	26.0	19.3		4.2	VLAW 210 041 16 XXX 104 R DDD
				2	955	1601	2910	3562	3860	30.0	21.3			
				3	1117	1812	3292	4030	4367	37.0	36.0			
	230	041	11	1	750	1155	2099	2569	2784	26.0	23.6		3.1	VLAW 230 041 11 XXX 104 R DDD
				2	828	1291	2346	2872	3112	30.0	27.5			
				3	978	1635	2972	3637	3942	40.1	41.2			
			16	1	967	1606	2919	3572	3871	26.0	21.6		4.6	VLAW 230 041 16 XXX 104 R DDD
				2	1043	1749	3177	3889	4214	30.0	23.6			
				3	1241	2013	3658	4477	4852	37.9	42.0			
	250	041	11	1	820	1262	2293	2806	3041	26.0	24.4		3.3	VLAW 250 041 11 XXX 104 R DDD
				2	907	1413	2568	3143	3407	30.0	28.5			
				3	1076	1799	3269	4001	4336	40.3	43.2			
			16	1	1058	1755	3189	3903	4230	26.0	22.7		5.0	VLAW 250 041 16 XXX 104 R DDD
				2	1139	1908	3468	4244	4599	30.0	24.7			
				3	1365	2215	4024	4925	5338	38.7	45.0			
	270	041	11	1	879	1351	2454	3004	3255	26.0	26.7		3.6	VLAW 270 041 11 XXX 104 R DDD
				2	978	1521	2763	3382	3665	30.0	31.4			
				3	1173	1963	3566	4364	4730	40.8	49.4			
			16	1	1154	1915	3479	4258	4615	26.0	22.7		5.4	VLAW 270 041 16 XXX 104 R DDD
				2	1243	2082	3783	4630	5017	30.0	24.7			
				3	1489	2416	4390	5373	5823	38.7	45.0			
	290	041	11	1	952	1463	2659	3254	3526	26.0	26.7		3.9	VLAW 290 041 11 XXX 104 R DDD
				2	1060	1647	2994	3664	3971	30.0	31.4			
				3	1271	2126	3863	4728	5124	40.8	49.4			
			16	1	1234	2041	3708	4538	4918	26.0	26.2		5.8	VLAW 290 041 16 XXX 104 R DDD
				2	1320	2208	4012	4910	5321	30.0	27.9			
				3	1613	2617	4756	5821	6308	39.0	54.0			

enter colour code

enter code air projection

enter control system code

	JRT-100 TB BLACK	JRT-100 TW WHITE	JRT-200 W	RDG 260T	RDG264KN
					
	8751 050019	8751 050017	8751 050021	8751 050020	8751 050018

	JRT-100 TB	JRT-100 TW	JRT-200 W	RDG 260T	RDG264KN
POWER SUPPLY					
supply voltage	24V DC	24V DC	24V DC	24V DC	24V DC
OUTPUT / INPUT VOLTAGE					
valve 24V DC contact	2 (NO)	2 (NO)	2	-	-
potential-free contact	-	-	-	3 (NO)	3 (NO)
input from keycard	-	-	-	✓	✓
input from window contact	-	-	-	✓	✓
fan (0 - 10 V DC)	max. +/- 10 mA	max. +/- 10 mA	max. +/- 10 mA	max. +/- 5 mA	max. +/- 5 mA
manual 3-position speed controller	✓	✓	✓	✓	✓
automatic mode	✓	✓	✓	✓	✓
APPLICATIONS					
2-pipe	❄ ❄ 🔥	❄ ❄ 🔥	❄ ❄ 🔥	❄ ❄ 🔥	❄ ❄ 🔥
manual (H/C)	✓	✓	✓	✓	✓
auto (H/C) - water temperature sensor required	-	-	-	✓	✓
4-pipe	❄ ❄ 🔥	❄ ❄ 🔥	❄ ❄ 🔥	❄ ❄ 🔥	❄ ❄ 🔥
manual (H/C)	✓	✓	✓	✓	✓
auto (H/C)	✓	✓	✓	✓	✓
DIMENSIONS					
for wall-mounting	-	-	✓	✓	✓
for recessed-mounting	✓	✓	optional	optional	optional
					
POSITION					
LCD display with backlight	-	-	✓	✓	✓
LCD touch screen with backlight	✓	✓	-	-	-
protection category IP20	-	-	✓	-	-
protection category IP30	✓	✓	-	✓	✓
integrated CO2-sensor	-	-	-	-	✓
humidity sensor	-	-	-	-	✓
FEATURES					
programmable time zones	✓	✓	✓	✓	✓
control via Wi-Fi (smartphone app)	✓	✓	✓	-	-
fan start delay	-	-	-	✓	✓
continuous fan speed	-	-	-	✓	✓
temperature sensor 80 cm	✓	✓	optional	optional	optional

VERTILINA HYBRID

SAMPLE WIRE DIAGRAMS ELECTRICAL INSTALLATION

Jaga aims to simplify your installation process with these sample diagrams. Perfectly align your power supply, thermostatic valve mounting, control system, pipe system, temperature monitoring and number of units per area.

Here, you can find the most common combinations. Feel free to ask for more variations at info@jaga.com

1. HYDRONIC

Option 1: 2-pipe system

Option 2: 4-pipe system

2. CONTROL

Option 1: controls inside the unit

Option 2: controls outside the unit

3. CHOICE OF THERMOSTAT

Option 1: thermostat JRT-100 TW or TB (wifi)

Option 2: thermostat JRT-200 W

Option 3: thermostat RDG 260T

Option 4: control panel

Option 5: based on water temperature

Option 6: home automation / building management system

4. CONTROL

Option 1: BMS

Option 2: ACO

Option 3: TPT

Option 4: on/off

Option 5: 3-speed control

Option 6: no control system

5. POWER SUPPLY

Option 1: component power (inside the unit)

Option 2: power supply DIN-rail assembly (outside the unit)

Option 3: no power supply

Option 4: power adapter for mains socket

6. THERMOELECTRIC ACTUATOR

Option 1: no thermoelectric motor

Option 2: thermostatic valve inside the unit (24 V)

Option 3: thermostatic valve inside the unit (230 V)

Option 4: thermostatic valve outside the unit (24 V)

Option 5: thermostatic valve outside the unit (230 V)

Option 6: thermostatic valve inside the unit (24 V) - 0 ... 10 V control

6. EXTERNAL SIGNAL

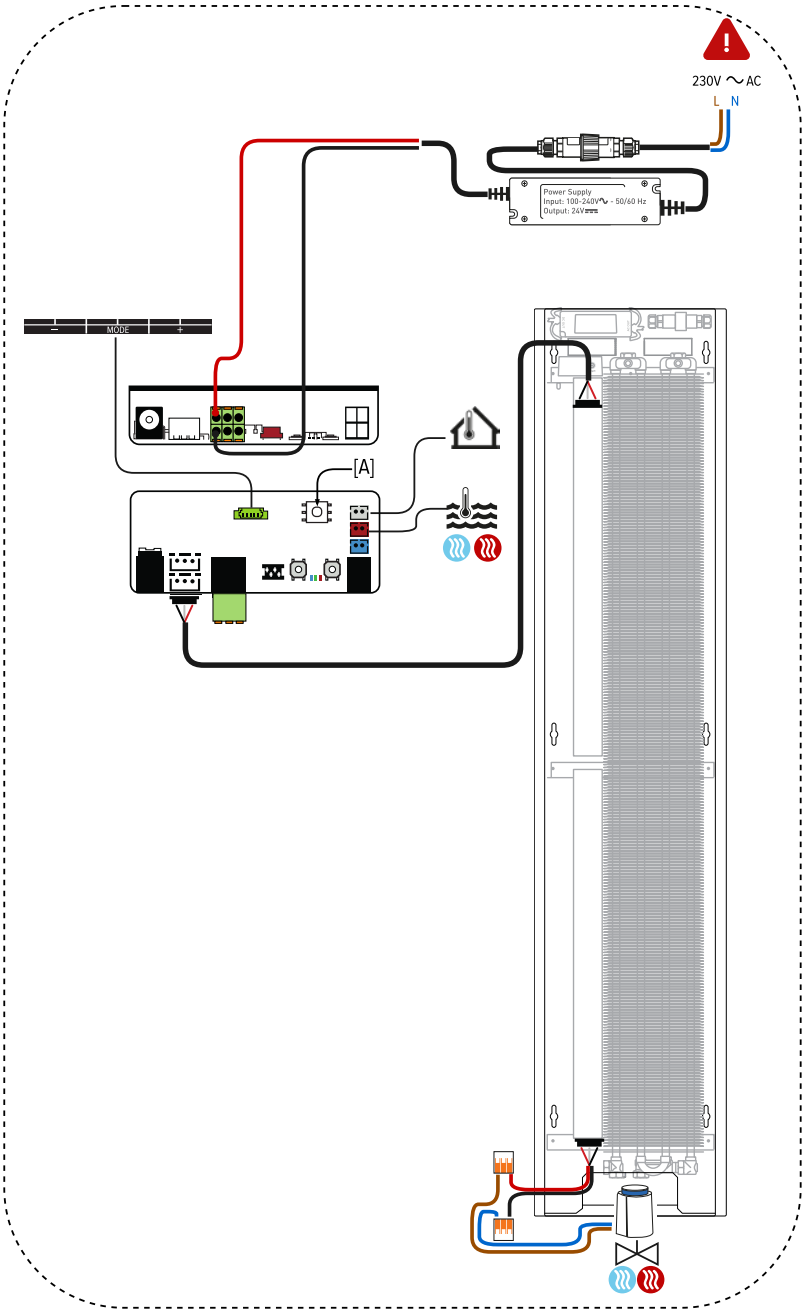
Option 1: external signal

Option 2: no external signal

VERTILINA HYBRID

SAMPLE DIAGRAM 1

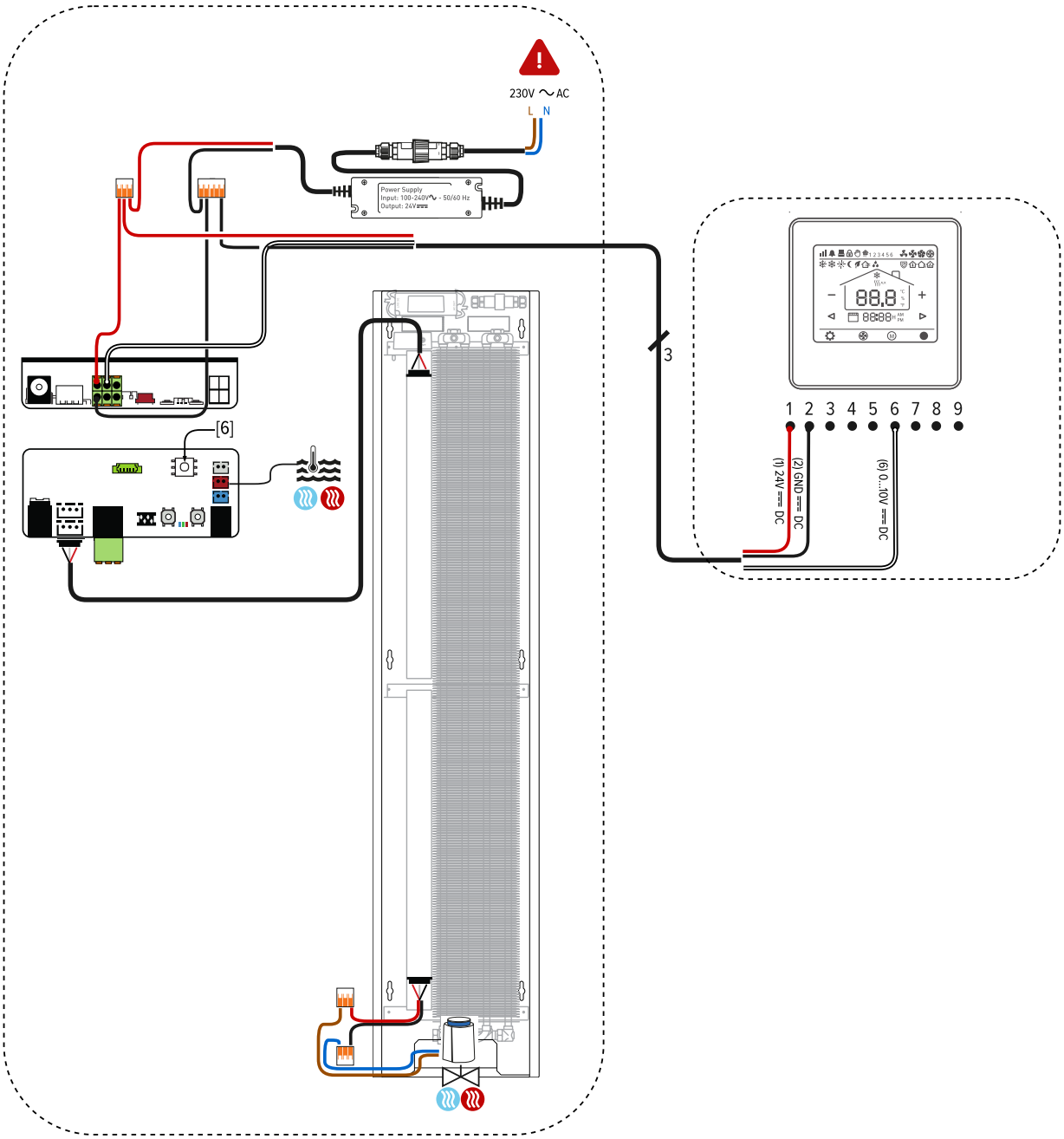
- controls inside the unit
- control panel
- TPT
- component power (inside the unit)
- thermostatic valve inside the unit (24V)
- no external signal



VERTILINA HYBRID

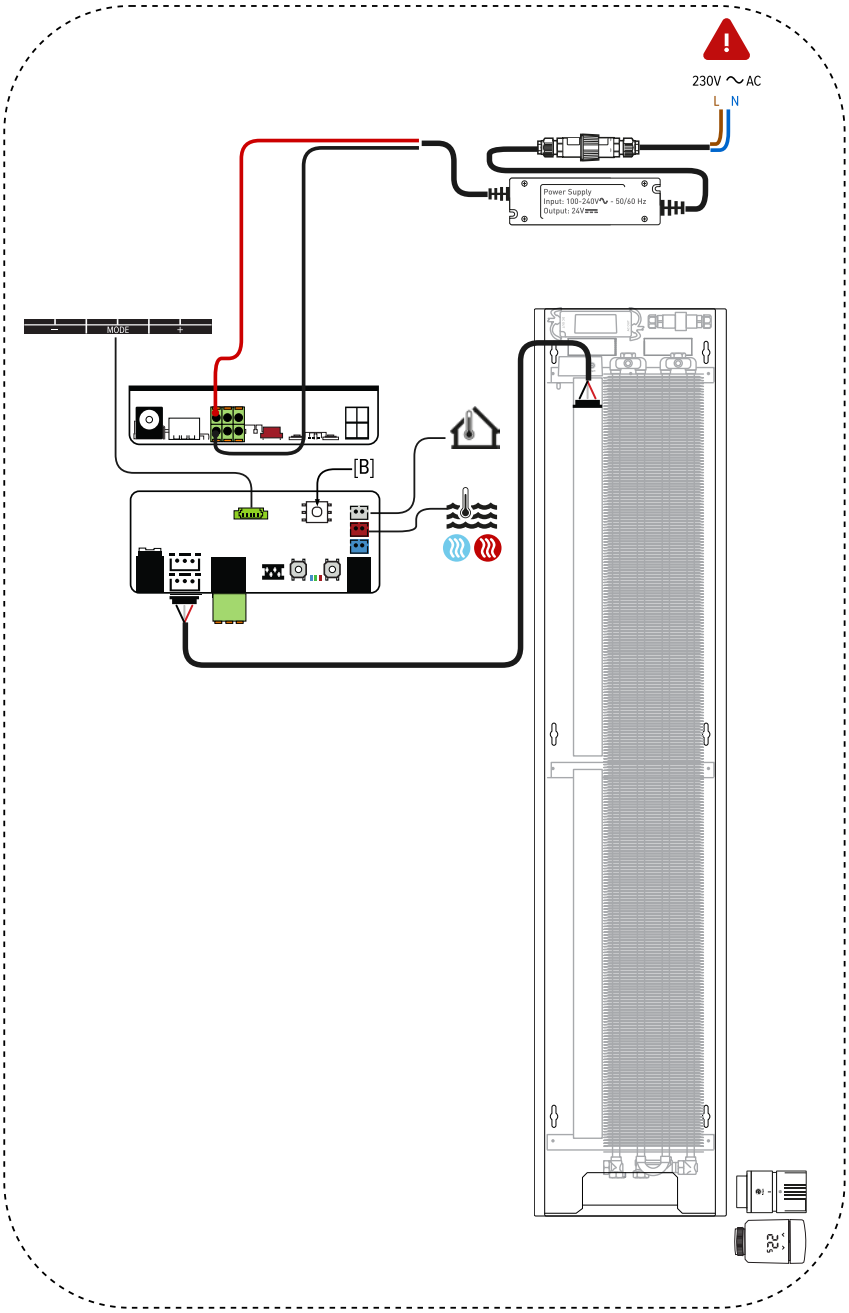
SAMPLE DIAGRAM 2

- controls outside the unit
- thermostat JRT-100 TW or TB (wifi)
- BMS
- component power (inside the unit)
- thermostatic valve inside the unit (24V)
- no external signal



SAMPLE DIAGRAM 3

- controls outside the unit
- control panel
- ACO
- component power (inside the unit)
- no thermoelectric motor
- no external signal



VERTILINA HYBRID

CORRECTION FACTORS

The indicated outputs at ΔT 50 are exact values, measured in accordance with EN442. This table provides a calculated value using an average correction factor for all other ΔT outputs, valid for all dimensions.

Click *www.jaga.com/selection-tools/* to download the calculation tools with the exact outputs. The online calculation tools are kept up to date with the most recent data. Minor output differences between printed tables and the different online calculation tools are therefore completely normal and within the margins of tolerance imposed by the standard.

AVERAGE CORRECTION FACTORS FOR HYBRID PRODUCTS - 75/65/20°C

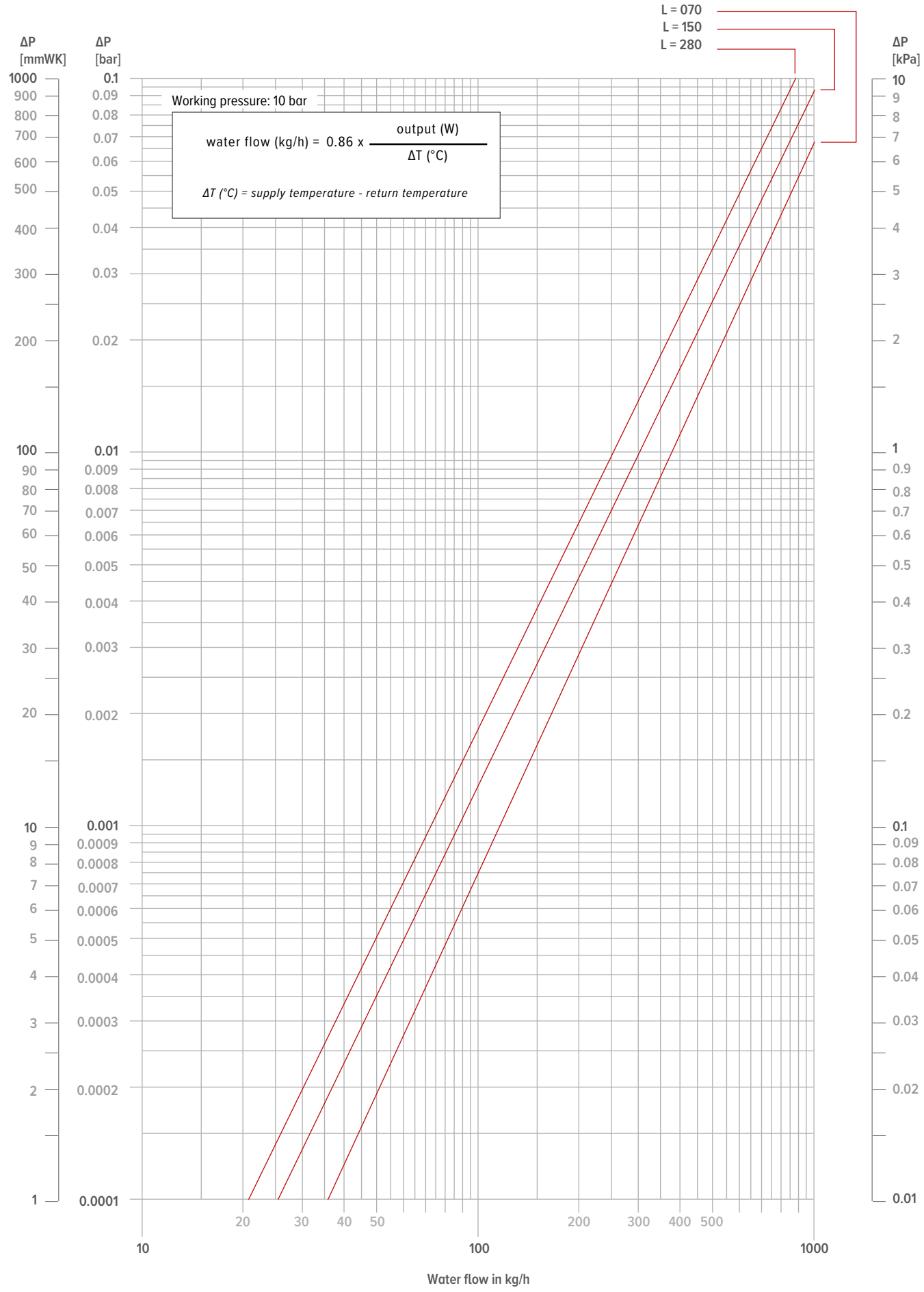
room temperature: 20°C **Average N-value: 1.10**

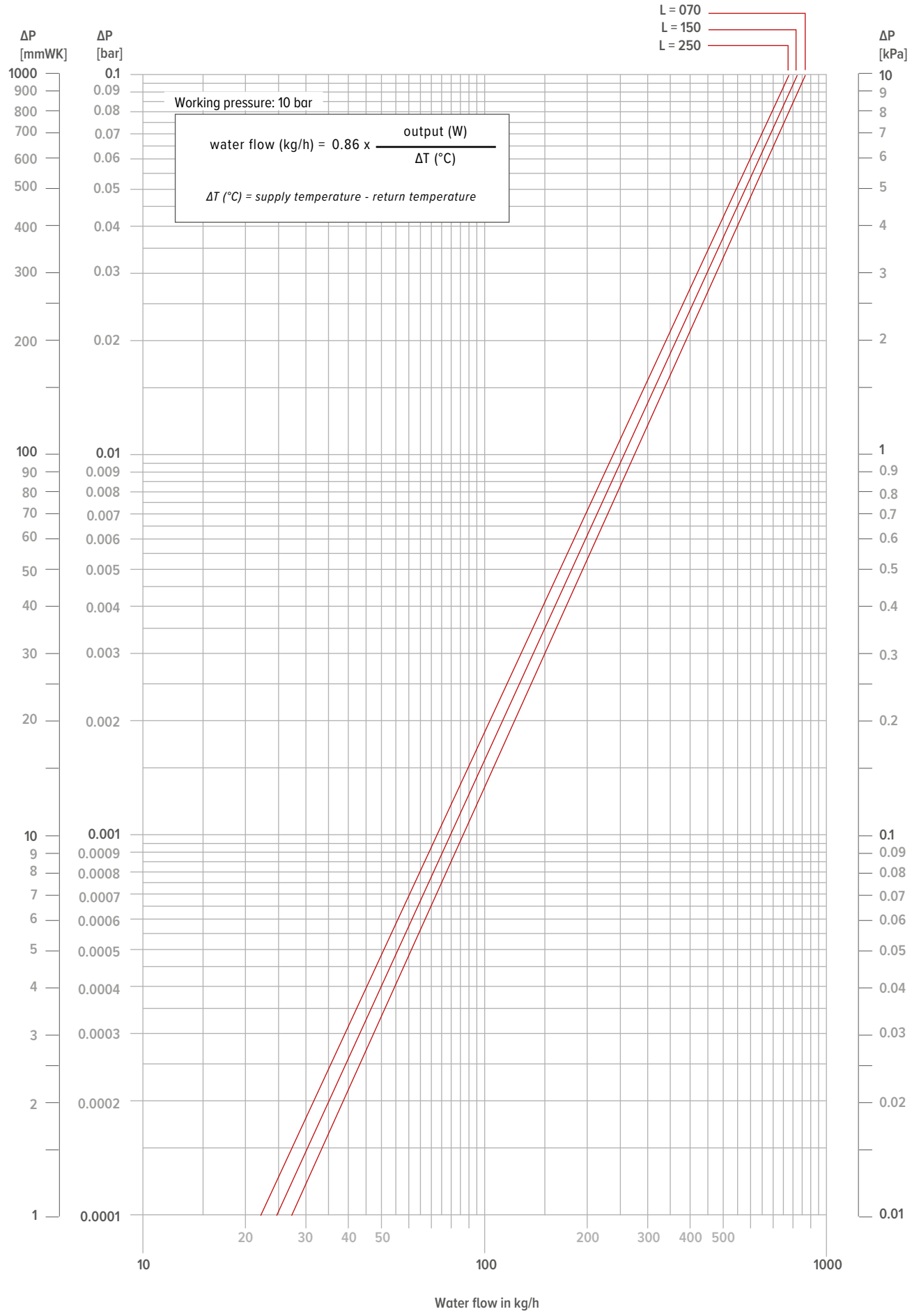
	TR 65	60	55	50	45	40	35	30	25
TA									
75	1.00	0.94	0.88	0.81	0.74	0.67	0.59	0.50	0.38
70	0.95	0.89	0.83	0.77	0.70	0.63	0.55	0.47	0.36
65		0.84	0.78	0.72	0.66	0.59	0.52	0.43	0.33
60			0.73	0.67	0.61	0.55	0.48	0.40	0.30
55				0.62	0.57	0.51	0.44	0.37	0.28
50					0.52	0.46	0.40	0.33	0.25
45						0.42	0.36	0.29	0.22
40							0.31	0.26	0.19
35								0.22	0.15
30									0.12

room temperature: 24°C **Average N-value: 1.10**

	TR 65	60	55	50	45	40	35	30	25
TA									
75	0.91	0.85	0.79	0.72	0.65	0.58	0.49	0.39	0.22
70	0.86	0.80	0.74	0.68	0.61	0.54	0.46	0.36	0.20
65		0.75	0.69	0.63	0.57	0.50	0.42	0.33	0.19
60			0.64	0.59	0.53	0.46	0.39	0.30	0.17
55				0.54	0.48	0.42	0.35	0.27	0.15
50					0.44	0.38	0.32	0.24	0.13
45						0.33	0.28	0.21	0.11
40							0.23	0.17	0.09
35								0.14	0.07
30									0.04

PRESSURE DROP TYPE 11




L = 070
L = 150
L = 250
ΔP [mmWK]
ΔP [bar]
ΔP [kPa]
Working pressure: 10 bar
water flow (kg/h) = 0.86 x output (W) / ΔT (°C)
ΔT (°C) = supply temperature - return temperature
1000 900 800 700 600 500 400 300 200 100 90 80 70 60 50 40 30 20 10 9 8 7 6 5 4 3 2 1
0.1 0.09 0.08 0.07 0.06 0.05 0.04 0.03 0.02 0.01 0.009 0.008 0.007 0.006 0.005 0.004 0.003 0.002 0.001 0.0009 0.0008 0.0007 0.0006 0.0005 0.0004 0.0003 0.0002 0.0001
10 9 8 7 6 5 4 3 2 1 0.9 0.8 0.7 0.6 0.5 0.4 0.3 0.2 0.1 0.09 0.08 0.07 0.06 0.05 0.04 0.03 0.02 0.01
10 20 30 40 50 100 200 300 400 500 1000
Water flow in kg/h

GUIDELINE FOR LIMITING FLOW NOISE

TUBE	outer Ø	Wall thick-ness	Max. water speed (EN10255)	water content per metre	max. water flow	Maximum power at ΔT (° C) (T supply - T return)						
						ΔT 30	ΔT 20	ΔT 10	ΔT 5	ΔT 4	ΔT 3	ΔT 2
	mm	*mm*	*m/s*	*l*	*kg/h*	*Watts*	*Watts*	*Watts*	*Watts*	*Watts*	*Watts*	*Watts*
GALVANISED PIPE DIN 2440												
3/8 DN10 OD	17.2	2.35	0.40	0.12	173	6028	4019	2009	1005	804	603	402
1/2 DN15 OD	21.3	2.65	0.40	0.20	288	10046	6698	3349	1674	1340	1005	670
3/4 DN20 OD	26.9	2.65	0.42	0.37	559	19515	13010	6505	3253	2602	1952	1301
1 DN25 OD	33.7	3.25	0.49	0.58	1023	35690	23793	11897	5948	4759	3569	2379
1 1/4 DN32 OD	42.4	3.25	0.60	1.01	2182	76101	50734	25367	12684	10147	7610	5073
1 1/2 DN40 OD	48.3	3.25	0.66	1.37	3255	113549	75700	37850	18925	15140	11355	7570
2 DN50 OD	60.3	3.65	0.80	2.21	6365	222025	148017	74008	37004	29603	22203	14802
PRECISION METAL TUBE												
10/1	10	1.00	0.40	0.05	72	2512	1674	837	419	335	251	167
12/1	12	1.00	0.40	0.08	115	4019	2679	1340	670	536	402	268
14/1	14	1.00	0.40	0.11	158	5526	3684	1842	921	737	553	368
15/1	15	1.00	0.40	0.13	187	6530	4353	2177	1088	871	653	435
16/1	16	1.00	0.40	0.15	216	7535	5023	2512	1256	1005	753	502
18/1	18	1.00	0.40	0.20	288	10046	6698	3349	1674	1340	1005	670
22/1	22	1.00	0.40	0.31	446	15572	10381	5191	2595	2076	1557	1038
28/1	28	1.00	0.47	0.53	904	31522	21014	10507	5254	4203	3152	2101
RPE/ALU												
12/2	12	2.00	0.40	0.05	72	2512	1674	837	419	335	251	167
14/2	14	2.00	0.40	0.08	115	4019	2679	1340	670	536	402	268
16/1.5	16	1.50	0.40	0.13	187	6530	4353	2177	1088	871	653	435
16/2	16	2.00	0.40	0.11	158	5526	3684	1842	921	737	553	368
17/2	17	2.00	0.40	0.13	187	6530	4353	2177	1088	871	653	435
18/2	18	2.00	0.40	0.15	216	7535	5023	2512	1256	1005	753	502
20/2	20	2.00	0.40	0.20	288	10046	6698	3349	1674	1340	1005	670
26/3	26	3.00	0.40	0.31	446	15572	10381	5191	2595	2076	1557	1038
32/3	32	3.00	0.47	0.53	904	31522	21014	10507	5254	4203	3152	2101
40/3.5	40	3.50	0.56	0.86	1726	60220	40147	20073	10037	8029	6022	4015
50/4.25	50	4.25	0.66	1.35	3206	111824	74549	37275	18637	14910	11182	7455
63/5	63	5.00	0.80	2.21	6346	221359	147573	73786	36893	29515	22136	14757

DEW POINT AIR BY AIR TEMPERATURE AND AIR HUMIDITY AT AIR PRESSURE 1013 HPA
MINIMUM WATER TEMPERATURE FOR NON-CONDENSING COOLING

AIR TEMPERATURE (°C)	RELATIVE AIR HUMIDITY (%)					
	40	50	60	70	80	90
20	6.0	9.3	12.0	14.4	16.4	18.3
21	6.9	10.2	12.9	15.3	17.4	19.3
22	7.8	11.1	13.9	16.3	18.4	20.3
23	8.7	12.0	14.8	17.2	19.4	21.3
24	9.6	12.9	15.8	18.2	20.3	22.3
25	10.5	13.9	16.7	19.1	21.3	23.2
26	11.4	14.8	17.6	20.1	22.3	24.2
27	12.2	15.7	18.6	21.1	23.3	25.2
28	13.1	16.6	19.5	22.0	24.2	26.2
29	14.0	17.5	20.4	23.0	25.2	27.2
30	14.9	18.4	21.4	23.9	26.2	28.2
31	15.8	19.4	22.3	24.9	27.1	29.2
32	16.7	20.3	23.3	25.8	28.1	30.2
33	17.6	21.2	24.2	26.8	29.1	31.1
34	18.5	22.1	25.1	27.8	30.1	32.1
35	19.4	23.0	26.1	28.7	31.0	33.1

If a unit is not equipped with a connected condensate drain, it must be ensured that condensation does not form on the heat exchanger within the unit. This is particularly applicable to Jaga 'non-condensing cooling' units. To prevent condensation, the water temperature must be higher than the dew point of the air in which the unit operates. This table shows the minimum water temperature required for a unit to function without condensation forming.

CASING

Casing made of electro-galvanised 1.25 mm thick steel sheet. With hexagonal perforations (jet black 104) on the longitudinal sides for air supply and exhaust. Easy to hook in on the rear panel.

Standard colours

- traffic white RAL 9016 (133), soft touch lightly structured satin finish
- sandblast grey (001), fine texture metallic lak
- off-black (145), soft touch lightly-textured satin lacquer

Other colours

See Jaga colour chart.
Surcharge depends on the length of the unit:

ORDER CODE

CVLW 100 041 11 XXX 104 R DDD

- DDD — Control: - D01: Jaga TPT - D03: Jaga BMS - D09: Jaga ACO
- R — Air projection: R: right (standard) L: left
- XXX — Colour
- 11 — Type: 11. 16
- 100 — Height

BACK PANEL

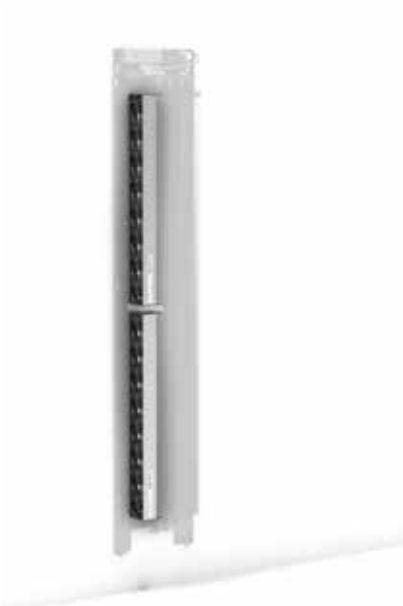
- rear panel with fixing points made of sendzimir-galvanised sheet steel, jet black 104
- Low-H_2O heat exchanger with 1/2" air vent and 1/2" drain cock.
- 230 VAC connection with watertight connection gland (IP68).
- fan rail, integrated power supply and control system of choice.

ORDER CODE

HVLW 100 041 11 000 104 0 DDD

- DDD — Control: - D01: Jaga TPT - D03: Jaga BMS - D09: Jaga ACO
- 11 — Type: 11. 16
- 100 — Height

FAN



fan rail, integrated power supply and control system of choice.

CODE	Type	H 090	100	120	150	170	190	210	230	250	270	290
AU03.10F06	11	1			2							
AU03.10F07	11		1			2				3		
AU03.10F08	11						2				3	3
AU03.10F09	11			1				2				
AU03.10F10	11								2			
AU03.15F04	16	1			2							
AU03.15F05	16		1			2	2			3	3	
AU03.15F06	16			1				2				3
AU03.15F07	16								2			

HEAT EXCHANGER

Low-H2O heat exchanger with 1/2" air vent and 1/2" drain cock.`

Attention!
Length of the heat exchanger = Height of Vertilina Hybrid - 10 cm

ORDER CODE

5010 000 080 10
- 10 — Type of heat exchanger
- 080 — Length

WATERPROOF POWER SUPPLY 24 VDC WITH WATERPROOF CABLE GLAND

- in compliance with UL1310 - EN 60950-1 / Class II
- output voltage 24 VDC
- input voltage 100 - 240 VAC
- output current 1.67 A
- output 40 Watts
- dimensions L 14.5 x B 4.5 x H 3.0 cm

CODE
37603 010002

EXTENTION PIPES G1/2"

Length 75 mm

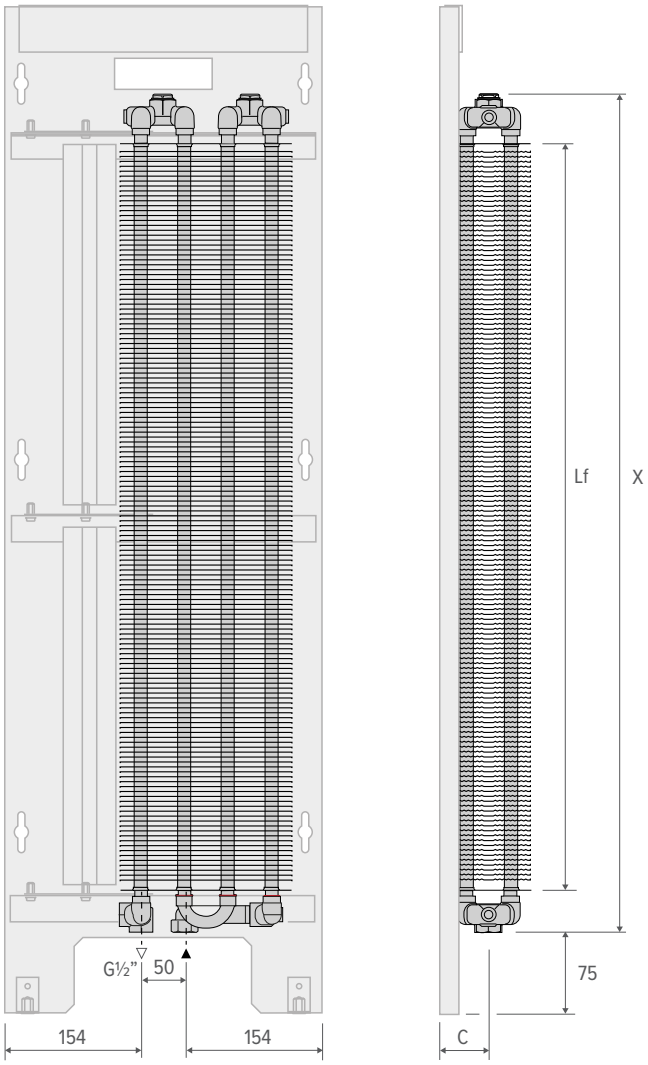
CODE	
5090106	2 units

DESCRIPTION

The Low-H2O heat exchanger is designed for maximum efficiency and long-lasting performance in heating and cooling systems. The coil is electrostatically coated with anthracite grey epoxy-polyester RAL 7024, gloss degree 70%.
This compact yet powerful unit consists of:

- rows of seamless circulation pipes made of pure red copper
- fins made of pure aluminium for optimal heat transfer
- brass manifolds, suitable for center connection
- supplied with a 1/2" air vent plug and 1/2" drain cock
- distance between the fins: 5.4 mm
- with connection: G1/2"

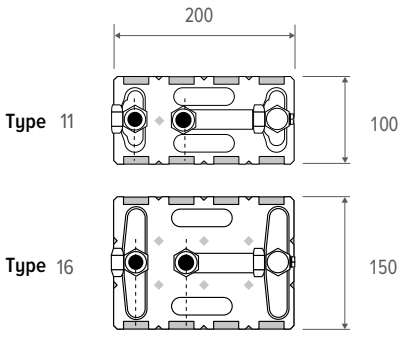
FRONT VIEW & SIDE VIEW *(in mm)*



VERTILINA HYBRID	C
Type	*mm*
11	55
16	80

OVERVIEW

BOTTOM VIEW *(in mm)*

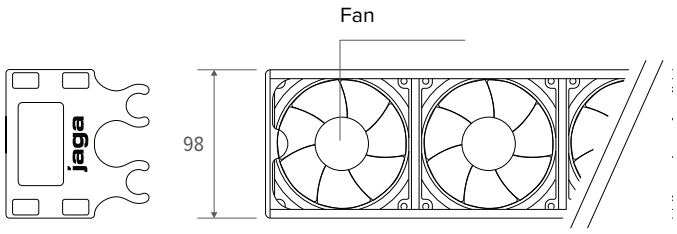


HEIGHT	X	Lf *	TYPE 11	TYPE 16
cm	*mm*	*mm*		
090	718	618	✓	✓
100	818	718	✓	✓
120	1018	918	✓	✓
150	1318	1218	✓	✓
170	1518	1418	✓	✓
190	1718	1618	✓	✓
210	1918	1818	✓	✓
230	2118	2018	✓	✓
250	2318	2218	✓	✓
270	2518	2418	✓	✓
290	2718	2618	✓	✓

* Lf = fin length

VERTILINA HYBRID TYPE 11

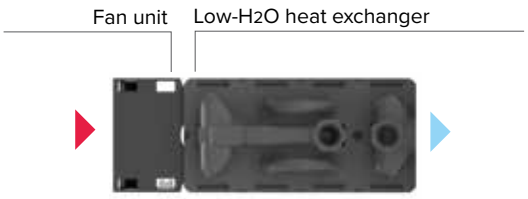
FAN UNIT *(in mm)*



DESCRIPTION

DBH fan unit(s) according to the length of the casing. Made of aluminium and plastic.
- fan unit(s): 24 VDC
- mounted alongside the H2O heat exchanger
- maximum of 3 units per device

BOTTOM VIEW



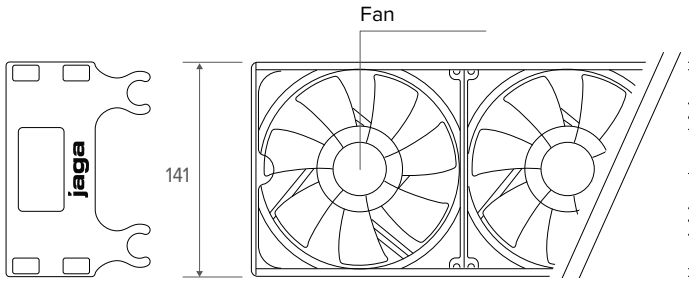
OVERVIEW

HEIGHT	OUTPUT*	FAN UNIT / UNIT	FANS / FAN UNIT	FANS / UNIT
cm	*W*	*number of*	*number of*	*number of*
090	12.3	1	6	6
100	14.4	1	7	7
120	18.5	1	9	9
150	24.7	2	6	12
170	28.8	2	7	14
190	32.9	2	8	16
210	37.0	2	9	18
230	41.2	2	10	20
250	43.2	3	7	21
270	49.4	3	8	24
290	49.4	3	8	24

*maximum electrical power consumption, measured at setting 3

VERTILINA HYBRID TYPE 16

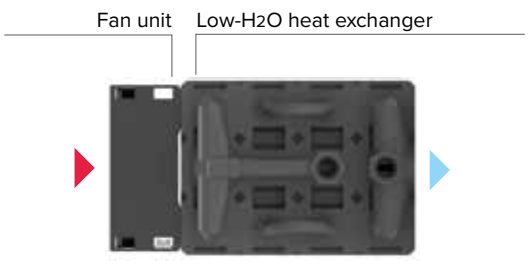
FAN UNIT *(in mm)*



DESCRIPTION

DBH fan unit(s) according to the length of the casing.
Made of aluminium and plastic.
- fan unit(s): 24 VDC
- mounted alongside the H2O heat exchanger
- maximum of 3 units per device

BOTTOM VIEW



HEIGHT	OUTPUT*	FAN UNIT / UNIT	FANS / FAN UNIT	FANS / UNIT
cm	*W*	*number of*	*number of*	*number of*
090	12.3	1	4	4
100	14.4	1	5	5
120	18.5	1	6	6
150	24.7	2	4	8
170	28.8	2	5	10
190	32.9	2	5	10
210	37.0	2	6	12
230	41.2	2	7	14
250	43.2	3	5	15
270	49.4	3	5	15
290	49.4	3	6	18

*maximum electrical power consumption, measured at setting 3

Preassembled vertical heating unit with lateral suction and exhaust grilles, suitable for wall mounting and supplied as standard for connection to conventional water-based heating systems. 2-pipe version.

Cools efficiently and comfortably without condensation and is suitable for use with heat pumps that also provide cooling.
Efficient and effortless **heating** with the lowest water temperature.

COMPONENTEN

Casing:
- casing easy to hook into place at the top, secure with 2 screws at the bottom
- front panel and side sections in one piece, made from electro-galvanised steel sheet (Zincor) with a thickness of 1.25 mm
- lateral air inlet and outlet openings with honeycomb grille
- **Standard colours:**
  - traffic white RAL 9016 (133), soft touch lightly structured satin finish
  - sand blast grey (001), fine-texture metallic paint
  - off-black (145), soft touch lightly-textured satin lacquer
  - honeycomb grille: jet black (104)
  - other colours on request (except honeycomb grille)

Support frame:
- made from electro-galvanised steel sheet (Zincor) with a thickness of 1.25 mm
- equipped with brackets for the heat exchanger, cut-outs for the feed-through of hydronic and electrical connections, and elongated holes for wall mounting
- **Standard colours:**
  - jet black (104)

Heat exchanger:
Low-H_2O heat exchanger is composed of round, seamless circulation tubes made of pure red copper, with pure aluminium fins and two brass collectors for left or right 1/2" same end connection.
  - supplied with a 1/2" air vent plug and 1/2" drain cock
  - G 1/2" F connection
  - distance between the fins: 5.4 mm
  - electrostatically coated with anthracite grey epoxy-polyester RAL 7024, gloss degree 70 %

Fan:
DBH fan unit(s) according to the length of the casing.
Made of aluminium and plastic. 24 VDC

Electric spare parts:
- coupling nut
- power supply 24 VDC

2 extension pipes:
- 75 mm

Control systems:
- **Pre-mounted control unit for fan coil operation:**
  - the controller is delivered pre-set and mounted in the unit
  - with water temperature sensor(s)
  - with key card contact / window contact
  - heating / cooling
  - heating: configured at water temperature >28 °C, can easily be modified
  - cooling: configured at water temperature <24 °C, can easily be modified
  - **Option 1: Auto-change-over mode (ACO):**
    - with air temperature sensor
    - the fan speed is selected manually in 3 modes via the control panel.
    - the unit will automatically switch from heating to cooling and to standby mode
  - **Option 2: Control panel (TPT):**
    - with air temperature sensor
    - The fan speed is automatically controlled in function of the preset comfort temperature via the fingertip controls. This allows the unit to be very silent once the comfort temperature is reached.
  - **Option 3: 0 - 10 V BMS with water temperature monitoring:**
    - when the fan recognises cold (<24 °C) or hot (>28 °C) water, it will rotate proportionally of the 0-10 V signal

OPTIONS

Room thermostats:
- **Room thermostat 200 W:**
  - room thermostat with touch screen
  - heating/cooling mode
  - 0-10 V output
- **Room thermostat 100 TW / 100 TB:**
  - room thermostat with touch screen
  - heating/cooling mode
  - 0-10 V output
  - white or black design
- **RDG 260T / RDG 264KN room thermostat AC 24 V:**
  - heating/cooling mode
  - automatic or manual changeover between heating and cooling

OPERATING LIMITS:

- water supply temperature: min. 3 °C to max. 90 °C
- pressure test: 20 bar
- working pressure: 10 bar

HOW TO INSTALL:

The building services engineer chooses the heating elements considering the following conditions:
- A heat output calculation according to the standard EN12831.
- Tables of heat outputs and dimensions according to EN16430.
- Free space:
  - the minimum space requirement under the heating elements is 15 cm
  - THe minimum distance for connections to the side of the unit is 15 cm

TERMS OF USE:

Vertilina Hybrid units are indoor climate control systems designed to provide the required output for heating and cooling during both summer and winter. They are intended for indoor spaces with domestic or similar use. Any other application is strictly prohibited.
- Installation and/or use of the climate control unit is prohibited in explosive environments.
- The unit is not intended for installation or use in humid environments, such as swimming pools (IEC EN 60335-2-40).
- It is forbidden to put objects through the inlet and outlet grilles. Always use the main switch to isolate the unit from the mains before performing any maintenance work on the unit, even if it is just inspections purposes.

Installation that does not comply with the specified operational limits relieves Jaga NV from discharge liabilities with regard to damage to objects and persons.

Vertilina Hybrid
Manufacturer: Jaga N.V.
Versions: Wall-mounted model

CE 1387 CEBEC

jaga CLIMATE DESIGNERS

JAGA INTERNATIONAL JAGA NV

In need of some advice? Make an appointment at the Jaga Advice Centre.

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